WE CLAIM:

1. A process for manufacturing a board used as a core for carrying decorative laminates, the board having particles bonded to each other in a pressing procedure with an adhesive as a bonding agent an adhesive, comprising the steps of:

grinding a cured, rigid resin into particles;

allowing the particles to absorb a preselected amount of water;

adding a bonding agent to the particles;

forming a mixture of the particles, water, and bonding agent;

pressing the mixture into a material of substantially uniform thickness.

2. The process of claim 1, wherein the resin is at least one resin selected from the group consisting of polyurethane, polyisocyanurate, and phenolic resins.

3. The process of claim 1, further comprising passing the particles through a screen

4. The process of claim 1, wherein the preselected amount of water is between about 1 to about 15% by weight.

5. The process of claim 1, wherein the bonding agent is a polymerising monomer adhesive.

6. The process of claim 1, wherein the bonding agent is a mixture of polyols.

7. The process of claim 6, wherein the bonding agent further comprises a blowing agent.

8. The process of claim 1, wherein the bonding agent is a formaldehyde based resin.

9. The process of claim 1, wherein the pressing step occurs between the belts of a continuous belt press.

10. The process of claim 1, wherein the pressing step occurs between the press platens of a static press.

11. The process of claim 1, further comprising at least one carrier web for pressing in the pressing step.

12. The process of claim 1, further comprising the step of adding at least one flame retardant to the mixture.

13. The process of claim 12, wherein the flame retardant is tri-chlorophosphate.

14. The process of claim 1, further comprising the step of

providing a decorative upper surface on said board.

15. The process of claim 14, wherein the step of providing a decorative upper surface is performed at one of during or after the manufacturing of the board.

16. The process of claim 14, wherein the step of providing a decorative upper surface includes the steps of

laminating at least one uppermost overlay web of melamine-formaldehyde resin impregnated ∝-cellulose paper with at least one decorative web of decorated melamine-formaldehyde resin impregnated ∝-cellulose paper under heat and pressure; and,

curing the resin at least partially; and,

bonding the webs to one another.

17. The process of claim 16, further comprising the step of

laminating the at least one uppermost overlay web of melamine-formaldehyde resin impregnated ∝-cellulose paper and the at least one decorative web of decorated melamine-

formaldehyde resin impregnated ∝-cellulose paper under heat and pressure with at least one group of support webs.

18. The process of claim 17, wherein the group of support webs comprise at least one monochromatic web of ∝-cellulose impregnated with melamine - formaldehyde resin.

19. The process of claim 17, wherein the support group of support webs includes paper webs impregnated with at least one of a group of resins including phenol-formaldehyde resin, urea-formaldehyde resin, and melamine-formaldehyde resin.

20. The process of claim 17, further comprising the step of

coating at least one web with a layer of hard-particles having an average size in the range of 50nm - 150 μm.

21. The process of claim 20, wherein the hard particles are at least one selected from the group consisting of α aluminum oxide, silicon carbide, and silicon oxide.

22. The process of claim 20, wherein at least the overlay layer contains 2-100 grams of hard particles per square meter of web.

23. The process of claim 16, wherein the curing step is performed before the upper decorative surface is bonded to the board.

24. The process of claim 9, wherein the pressing step includes the step of increasing pressure between the belts toward an end of the pressing step.

25. The process of claim 16, wherein the uppermost overlay web is a printed foil.

26. The process of claim 25, wherein the printed foil is made of an α-cellulose impregnated with a polymeric lacquer or resin.

27. The process of claim 26, wherein the polymeric lacquer or resin is at least one selected from the group consisting of melamine-formaldehyde, urea-formaldehyde, acrylic, maleamid, and polyurethane.

28. The process of claim 25, wherein the printed foil is made of a polymer comprising at least one selected from the group consisting of polyvinyl-chloride, polyester, polypropylene, polyethylene, polyurethane, and acrylic.

29. The process as in claim 25, further comprising the step of coating an upper surface with one or more wear-resistant layers of acrylic or maleamid lacquer on top of the printed foil after the pressing step.

30. The process as in claim 29, wherein the lacquer is cured by applying at least one of ultraviolet light or electron-beam to the lacquer.

31. The process as in claim 29, wherein the coating step includes the steps of applying two or more layers with intermediate stages of at least partial curing.

32. The process as in claim 29, wherein the lacquer includes at least one layer of hard-particles having an average size in the range of 50nm - 150 μm, and is applied in a range of 2-100 grams of particles per square meter of the board.

33. The process as in claim 32, wherein the hard particles include at least one of α aluminum oxide, silicon carbide, or silicon oxide.

34. The process as in claim 32, wherein an uppermost layer of lacquer contains hard-particles having an average size in the range of 50nm - 30 μm, the uppermost layer being applied in a range of 2-100 grams of particles per one square meter of the board.

35. The process as in claim 16, wherein the uppermost surface web is one selected from the group consisting of translucent and semi-translucent webs.

36. The process as in claim 35, wherein the cured rigid resin and the bonding agent are of different colors.

37. The process as in Claim 1, further comprising the step of adding pigmentation to the bonding agent.

38. The process as in Claim 35, wherein the translucent or semi-translucent web is at least one selected from the group consisting of a foil and a printed decor layer web.

39. The process as in claim 38, wherein the printed decor web is semi-translucent.

40. The process as in claim 38, wherein the printed decor is opaque and covers at least a portion of the foil or web.

41. The process as in claim 35, wherein the translucent or semi-translucent layer comprises α cellulose impregnated with a polymeric resin or lacquer.

42. The process as in claim 41, wherein the polymeric resin or lacquer is at least one selected from the group consisting of melamine formaldehyde, urea-formaldehyde, polyurethane, acrylic, and maleamid.

43. The process as in claim 35, wherein the translucent or semi-translucent layer is a polymer.

44. The process as in claim 43, wherein the polymer is at least one selected from the group consisting of a polyvinyl-chloride acrylic, polyester, polypropylene, polyethylene, and polyurethane.

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45. The process as in claim 35, further comprising the step of applying at least one wear layer on top of the foil or web.

46. The process as in claim 45, wherein the at least one wear layer comprises an α cellulose impregnated with a polymeric resin or lacquer.

47. The process as in claim 41, wherein the polymeric resin or lacquer is at least one of melamine formaldehyde, urea-formaldehyde, polyurethane, acrylic, or maleamide.

48. The process as in claim 44, wherein the wear layer is composed of a polymeric lacquer that is one of acrylic or maleamide.

49. The process as in claim 48, wherein the wear layer is cured by applying at least one of an ultraviolet light or electron-beam to the wear layer.

50. The process as in claim 44, wherein the step of applying the at least one wear layer comprises the step of allowing the lacquer to at least partially cure before applying a subsequent layer.

51. The process as in claim 44, wherein the at least one wear layer includes 2-100 g/m^2 of hard particles, the hard particles being composed of at least one of α-aluminum oxide, silicon carbide, or silicon oxide; and wherein each particle has an average size in the range of 50 nm - 150 μm.

52. The process as in claim 51, wherein each particle has an average size in the range of 50 nm - 30 μm.

53. The process as in claim 1, further comprising the steps of

applying a decor on an upper side of the board by printing the decor directly on the surface via transfer printing.

54. The process as in claim 53, further comprising the step of sanding or coating the surface of the board before applying the decor.

55. The process as in claim 53, further comprising the step of applying at least one wear layer on top of the decor.

56. The process as in claim 55, wherein at least one of the wear layer comprise α-cellulose impregnated with a polymeric resin or laquer.

57. The process as in claim 56, wherein the polymeric resin or lacquer is one of a melamine-formaldehyde, urea-formaldehyde, polyurethane, acrylic or maleamid.

58. The process as in claim 56, wherein the wear layers are composed of a lacquer of at least one of an acrylic or maleamid; or, an ultraviolet light or electron beam curing material.

59. The process as in claim 55, further comprising the step of allowing the at least one wear layer to at least partially cure before applying a subsequent wear layer.

60. A process as in claim 55, wherein the at least one wear layer includes 2-100 g/m^2 of hard particles of α-aluminum oxide, silicon carbide, or silicon oxide, each particle having an average size in the range of 50nm - 150 μm

61. A process as in claim 60, wherein each particle has an average size in the range of 50 nm - 30 μm.

62. The board produced by the process of claim 1.

63. The product produced by the process of claim 16.